AMENDMENTS TO CLAIMS

Claim 1 (currently amended): A method for optically screening sample materials ~~for at least one characteristic~~, the method comprising:

(a) providing a library of at least four sample materials upon a substrate;

(b) directing an electromagnetic wavefront ~~through a partial mirror~~ at a surface of each of the at least four sample materials wherein the electromagnetic wavefront includes light selected from infrared light, visible light, ultraviolet light or a combination thereof ~~wherein the surface of each of the at least four sample materials is substantially non-planar~~;

(c) monitoring a response of the electromagnetic wavefront after the wavefront encounters the at least four sample materials; ~~and~~

(d) correlating the response of the electromagnetic wavefront to a surface topography of the at least four sample materials;

wherein steps (a) through (d) are performed without substantially contacting the at least four sample materials with any probe.

Claim 2 (previously presented): A method as in claim 1 wherein the at least four sample materials are provided upon a substrate with a flexible portion.

Claim 3 (canceled)

Claim 4 (currently amended): A method as in claim 1 ~~3~~ further comprising correlating the topography of the surface of the at least four sample materials to a volume of the at least four sample materials.

Claim 5 (original): A method as in claim 4 wherein a mass of the at least four sample materials is predetermined and the method further comprises correlating the mass of the at least four sample materials and the volume of the at least four sample materials to a density of the at least four sample materials.

Claim 6 (currently amended): A method as in claim 1 wherein steps (b) through (d)

are repeated for determining a change in the surface topography of the at least four sample materials ~~characteristic~~.

Claim 7 (currently amended): A method as in claims 1 or 6 further comprising correlating the surface topography of the at least four sample materials to a size of the at least four sample materials ~~wherein said characteristic is size of the at least four sample materials~~.

Claim 8 (currently amended): A method as in claim 1 or 6 further comprising correlating the surface topography of the at least four sample materials to a thickness or a volume of the at least four sample materials ~~wherein the characteristic is a volume of the at least four sample materials~~.

Claim 9 (original): A method as in claim 6 wherein each of the at least four sample materials is supported upon a suspended platform.

Claim 10 (original): A method as in claim 9 further comprising applying a stimulus to the at least four sample materials prior to the step of monitoring the response of the electromagnetic wavefront wherein the stimulus causes movement of the at least four sample materials at least during a portion of the step of monitoring the response of the electromagnetic wavefront.

Claim 11 (original): A method as in claim 10 wherein the movement is at least partially oscillation.

Claim 12 (currently amended): A method as in claim 11 further comprising correlating the surface topography of the at least four sample materials to AC resonance of the at least four sample materials ~~wherein the characteristic of the at least four sample materials is AC resonance~~.

Claim 13 (original): A method as in claim 1 wherein said electromagnetic wavefront is provided by an interferometer.

Claim 14 (original): A method as in claim 1 wherein the electromagnetic wavefront is provide by a laser.

Claim 15 (original): A method as in claim 1 wherein the electromagnetic wavefront has a narrow bandwidth wavelength.

Claim 16 (original): A method as in claim 1 wherein the electromagnetic wavefront is a single wavelength monotonic light.

Claim 17 (currently amended): A method for optically screening sample materials for thickness ~~topography~~, the method comprising:

(a) providing a library of at least four sample materials;

(b) directing an electromagnetic wavefront ~~simultaneously~~ at a surface of each of the at least four sample materials wherein the electromagnetic wavefront includes light selected from infrared light, visible light, ultraviolet light or a combination thereof;

(c) monitoring a reflected portion of the electromagnetic ~~electromatic~~ wavefront that is reflected off of the at least four sample materials; and

(d) correlating the reflected portion of the electromagnetic wavefront to a thickness ~~topography~~ of each of the at least four sample materials wherein the thickness of each of the at least four sample materials is greater than 1 micron.

Claim 18 (original): A method as in claim 17 wherein steps (a) through (d) are performed without contacting the at least four sample materials with a solid object.

Claim 19 (canceled)

Claim 20 (canceled)

Claim 21 (currently amended): A method as in claim 17 wherein steps (b) through (d) are repeated for determining a change in the thickness ~~topography~~ of the at least

four sample materials.

Claim 22 (original): A method as in claim 21 wherein each of the at least four sample materials is supported upon a suspended platform.

Claim 23 (original): A method as in claim 22 further comprising applying a stimulus to the at least four sample materials prior to the step of monitoring the reflected portion of the electromagnetic wavefront wherein the stimulus causes movement of the at least four sample materials at least during a portion of the step of monitoring the reflected portion of the electromagnetic wavefront.

Claim 24 (original): A method as in claim 23 wherein the movement is at least partially oscillation.

Claim 25 (canceled)

Claim 26 (original): A method as in claim 17 wherein said electromagnetic wavefront is provided by an interferometer.

Claim 27 (original): A method as in claim 17 wherein the electromagnetic wavefront is provide by a laser.

Claim 28 (original): A method as in claim 17 wherein the electromagnetic wavefront has a narrow bandwidth wavelength.

Claim 29 (original): A method as in claim 17 wherein the electromagnetic wavefront is a single wavelength monotonic light.

Claim 30 (currently amended): A method for optically screening an array of sample materials to determine <u>at least one characteristic</u> ~~density~~ of the array of sample materials, comprising:

(a) providing a library of at least sixteen sample materials wherein each of

the at least sixteen sample materials are supported by one or more substrates and wherein each of the at least sixteen sample materials is a polymeric product of a separate polymer synthesis reaction;

(b) directing an electromagnetic wavefront at each of the at least sixteen sample materials with a laser wherein the laser is at least a portion of an analytical system;

(c) monitoring the electromagnetic wavefront with a monitor of the analytical system after the wavefront is reflected from a surface of each of the at least sixteen sample materials to determine distances of the surface from a reference location for determining the topography of the surface as mathematical function;

(d) correlating the topography of the surface of the each of the at least sixteen sample materials to a volume or thickness of the at least sixteen sample materials ~~by integrating the mathematical function over an area defined by the surface of each of the at least sixteen sample materials;~~

~~(e) repeating steps (b)-(d) to determine any change in the density of the at least sixteen sample materials~~.

Claim 31 (canceled)

Claim 32 (currently amended): A method as in claim 1, wherein the electromagnetic wavefront is serially directed ~~through the partial mirror~~ at a surface of each of the at least four sample materials.

Claim 33 (currently amended): A method as in claim 1, wherein the electromagnetic wavefront is simultaneously directed ~~through the partial mirror~~ at a surface of each of the at least four sample materials.

Claim 34 (canceled)

Claim 35 (currently amended): A method for optically screening sample materials for thickness, the method comprising:

(a) ~~(b)~~ providing a library of at least four sample materials upon a substrate;

(b) directing an electromagnetic wavefront, with a wavefront source, ~~through a partial mirror~~ at a surface of each of the at least four sample materials wherein the electromagnetic wavefront includes light selected from infrared light, visible light, ultraviolet light or a combination thereof;

(c) monitoring, with a sensor, a response of the electromagnetic wavefront after the wavefront encounters the at least four sample materials; and

(d) correlating the response of the electromagnetic wavefront to a thickness of the at least four sample materials;

wherein steps (a) through (d) are performed without substantially contacting the at least four sample materials with any probe; and

wherein the wavefront source is adjacent to the sensor.

Claim 36 (previously presented): A method as in claim 35 wherein the surface of each of the at least four sample materials is substantially planar.

Claim 37 (new): A method as in claim 7 wherein the size is a thickness.

Claim 38 (new): A method as in claim 17 wherein the thickness of each of the at least four sample materials is greater than 10 microns.

Claim 39 (new): A method as in claim 17 wherein the thickness of each of the at least four sample materials is from about 1 micron to about 3 millimeters.

Claim 40 (new): A method as in claim 30 further comprising repeating steps (b)-(d) to determine any change in the density of the at least sixteen sample materials.

Claim 41(new): A method as in claim 30 wherein the laser is adjacent the monitor.

Claim 42 (new): A method as in claim 35 wherein the thickness of each of the at least four sample materials is greater than 1 micron.

Claim 43 (new): A method as in claim 35 wherein the thickness of each of the at least four sample materials is greater than 10 microns.

Claim 44 (new): A method as in claim 35 wherein the thickness of each of the at least four sample materials is from about 1 micron to about 3 millimeters.